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| U.S. PAT | ENT DOC | UMENTS | | | | | | |
| *Examiners Initials | | Cocument Number | Deic | Name | | Class | Subclass | Filing Date II Appropriate |
| KP | ~ | 1,132,636 | 03/1915 | Taylor, et al | | | | |
| | AB | 1,926,395 | 09/1933 | T. Midgley, Jr. | | | | |
| | AG | 1,926,396 | 09/1933 | Midgley, Jr. | | | | |
| | AĐ | 2.021,981 | 11/1935 | Bichowsky | | | | |
| | Vē | 2,413,696 | 01/1947 | Downing, at al | | | | |
| | AP | 2.456,028 | 12/1948 | Simons | | | | |
| | ~ | 2,519,983 | 08/1950 | Simons | | | | |
| | КА | 3.080,430 | 03/1963 | Cohen | | | | |
| | N | 3.479,286 | 11/1969 | Gambaretto, et al | | | | |
| | ~ | 3,666,553 | 04/1972 | Rainaldi, et el | | | | |
| | AK | 3,715,438 | 02/1973 | Huggett | | | | |
| | AL. | 3,822,207 | 07/1974 | Howard, et al | | | | |
| | ^** | 3,844,354 | 10/1974 | Larsen | | | | |
| | AN . | 4,014,799 | 03/1977 | Owens | | <u> </u> | | |
| | 100 | 4,225,404 | 09/1980 | Dietrich, et al | | | | |
| | AP. | 4,226,728 | 10/1980 | Kung | | | | |
| | AL) | 4,446,923 | 05/1984 | Martin | | | | |
| | 49 | 4,459,213 | 04/1972 | Uchida, et al | | | · | |
| | AS | 4.536.298 | 08/1985 | Kamei, et al. | | | | |
| | AT | 4,668,407 | 05/1987 | Gerard, et al | | | | |
| A | w | 4,810,403 | 03/1989 | Bivens, et al | | | | |
| KP | AY | 4,926,610 | 05/1989 | Thacker | | | | |
| EXAMINE! | arl P | utt litz/ | ERED | 09/29/2006 | 5 | | | |
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| U.S. PATE | NT DOC | UMENTS | | | | | | |
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| KP | | 4,651,595 | 07/1989 | Gumprecht | | | | |
| | A8 | 4,876,405 | 10/1989 | Gervasulti | | | | |
| | AC | 4.937,398 | 06/1990 | Tung, et al | | <u> </u> | | |
| | AO | 4,945,119 | 07/1990 | Smits, et al | | <u> </u> | | |
| | A6 | 4.954.271 | 09/1990 | Green | | <u> </u> | | |
| | A# | 5,040,609 | 08/1991 | Dougherty, et al | | | | |
| | 45 | 5,084,180 | 01/1992 | Femandez | | | | |
| | 44 | 5,115,868 | 05/1992 | Dougherty Jr., et al | | <u> </u> | | |
| | | 5,141,654 | 08/1992 | Fernandez | | | | |
| | ~ | 5,523,501 | 06/1996 | Keliner, et al. | | <u> </u> | | |
| | * | 5,582,861 | 10/1996 | Nimitz, et al. | | <u> </u> | | |
| | . ~ | 5,730,894 | 03/1998 | Minor | | <u>L.</u> . | | |
| | 44 | 6.085,547 | 05/2000 | Ellis, et al. | | <u> </u> | | |
| | ~ | 6.291,729 | 09/2001 | Rao | | <u>L.</u> . | | |
| | * | 6,348,203 B1 | 02/2002 | Robin, et al. | | | | |
| | ~ | 6,461,530 | 10/2002 | Robin, et al. | | | | |
| | AO | 6,476.979 | 11/2002 | Rivers, et al. | | | | |
| | RD I | 6,763,694 | 07/2004 | Schoenrock | | <u> </u> | | |
| b | 13 | 6,649,194 | 02/2005 | Robin, et al. | | | | |
| KP | AT | 5,416,246 | 05/1995 | Krespan et al. | | <u>L</u> | | |
| EXAMINER | /K | arl Puttlitz | 7 ^{ED} 09/2 | 9/2006 | | | | |
| *EXAMINEF considered. | l: Initial If | opy of this form with next o | ther or not citalic ommunication to | on is in conformance with MF applicant. | EP 609; Oraw line 1 | through c t | ation if not in c | onformance and not |

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| FOREIG | GN PATE | T DOCUMENTS | | | | | | | |
| K | P | Document Mumber | Dale | Country | | C1886 | Subclass | Trans | Pation No |
| | ~ | CA 902590A | 08/1962 | Canada | | | | | |
| | AB | EP 0 039 471 A1 | 11/1981 | Europe | | | | | |
| | * | EP 0 253 410 | 01/1998 | EPO | | | | | |
| | ~ | EP 0 383 443 A2 | 08/1990 | Europe | | <u> </u> | | | |
| | Æ | EP 0 434 409 A | 06/1991 | Europe | | <u> </u> | | | |
| | AF | EP 0 481 618 A1 | 04/1992 | Europe | | <u> </u> | | | |
| | ۸۵ | EP 0 570 367 B1 | 01/1993 | Éurope | | L | | | |
| | Art | AU 2068718 C1 | 08/1990 | Aussia | | | | | |
| | N | 1.546,505 | 09/1970 | Germany | | | | | |
| | ~ | WO 91/02564 | 03/1991 | WIPO | | | | | |
| | AK | WO 91/04766 | 04/1991 | PCT | | | | | |
| | 4 | WO 91/12853 | 09/1991 | РСТ | | | | | |
| | ~ | WO 93/24586 | 12/1993 | PCT | | | | | |
| | AN | WO 98/37043 | 05/1998 | PCT | | | | | |
| | 40 | WO 96/40634 | 12/1996 | PCT | | | | | |
| | AD. | WO 03/029173 | 04/2003 | PGT | | | | | |
| | AG | 698,386 | 10/1953 | υκ | | | | | |
| | #A | GB 1,132,838 | 11/1968 | UK | | L. | | | |
| | ~ | JP 51034595 | 09/1974 | Japan | | | | | |
| U | AT | JP 57-93070-A | 06/1952 | Japan | | | | | |
| KP | , w | Laid Open Hel 1- 115999 | 05/1989 | Japan | | | | | |
| | A. | | | | | <u> </u> | | | |
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| FOREIGN | PATENT | DOCUMENTS, CON'T | | | | | | | |
| KP | B | Sho 50-50864 (Laid Open Sho 51-131100) | 04/1975 | Japan | | | | | |
| KP | 40 | Sho 48-19093 | 03/1973 | Japan | | | | | |
| KP | AC | Sho 52-25679 | 07/1977 | Japan | | | | | |
| KP | AO | Lai Open Hei 4- 96770 | 03/1992 | Japan | | | | | |
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| | • | | FILING DATE October 31, 2003 | GROUP 1621 |
| OTHER RE | FERE | NCES (Including Author, Title, Date, Pertinent Pages, Etc.) | | |
| KP | | McFarland, Mack, "Chlorolluorocarbons and ozone", 1989, E | nviron. Sci. Technol., Vo . 23, I | No. 10, pp. 1203-1207 |
| | AĐ | Malcomb, J.E., "Report 1177 Interim Report Vaporizing Fire E Research and Development Leboratories, Patroleum and Dis | tribution Branch, pp. 1-90 | |
| | 46 | Wuebbles, Donald J., "The Relative Efficiency of a Number o January 1981. Lawrence Livermore National Laboratory, Univ | versity of California, pp11 | |
| | 40 | Wuebbles, Donald J., "Chlorocarbon Emission Scenarios: Po February 1983, Journal of Geophysical Research, Vol. 88, No. | otential Impact on Strato ipheri b. C2, pp. 1433-1443 | o Ozone", |
| | AF | Molina, et al., "Ultraviolet Absorption Cross Sections of Sever Almospheric Interest". February 1982, J. Phys. Chem., Vol. 8 | 6, 2672-2676 | |
| | AF. | The United Nations Environment Program, Montreal Protocol of the Halons Technical Options Committee*, June 1989. Dra | | riew, "Report |
| | 40 | Larsen, Eric R., "Halogenated Fire Extingulahants: Flame Su Halogens Research Laboratory, The Dow Chemical Corpora | ppression by a Physical Wech tion, Midland, Michigan, pp. 37 | anism?", 1975, 6-402 |
| | Ar | Belles, Frank E., "Chemical Action of Halogenated Agents in for Aeronautices, Technical Note 3565, pp. 1-30 | Fire Extinguishing*, 1955 , Nati | ional Advisory Commillee |
| | ~ | Kauschka. Von Gunther, et al., "Calculation of thermodynami perhabogen hydrocarbons". October 1976, Chemistry Section (translated) | of the Humboldt Univer: ity in | Berlin, Vol. 10, pp. 1-22 |
| | ~ | Moore, Jeanne P., et al., "Haton Alternatives Extinguishment Stratospheric Ozone, New Mexico Engineering institute, Univ presented at the International Conference on CFC & Halon A 1-8 | rersity of New Mexico, Al suque Mematives, October 10-11, 19 | erque, New Mexico, 89, Washington, D.C., pp. |
| | AK | Smart, B.E., "Fluorocarbons", 1983, The Chemistry of Function | | |
| | A | Chemical Encyclopedia, "Bolshaya Rossiiskaya Entsiklopedia Med-Pol | | • |
| | Aser | The United Nations Environment Program, Montreal Protocol Halons - Technical Options Committee", August 1989 | | riew, "Final Report of the |
| | ~~ | Reid, Robert C., 'The properties of gases and liquids', 1987, | pp. 153-167 | |
| | 40 | "Part IV The Evolution of the Montreal Protocol", 1987, Section | | |
| | AP | Hynes, Robert G., et al., "Shock-Tube Study of the Pyrotysis of J. Phys. Chem. A, Vol. 103, pp. 54-61 | | |
| | 40 | Joint Assessment of Commodity Chemicals No. 24, Pentafluo | proethane (HFC 125), (E-)ETC | OC) May 1994, pp. 14-20 |
| | 49 | Kubota, Kazuo, *Current State and Measures Related to Chic Review, Vol. 33, No. 2, pp. 1-8 (English translation - pp. 1-18 | orofluorocarbon Regulabi⊶ns, P I) | Part I", 1989, <i>Valqua</i> |
| | AS | Malcolm. J.E., "Halogenated Extinguishing Agents", Part II Re NFPA Quarterly, pp. 119-131 | search at the Corps of Engine | ers' Laboratories, 1951. |
| | AT | Nelson, Thomas P., "Findings of the Chlorofluorocarbon Che U.S. Environmental Protection Agency, Air and Energy Engin K6 | mical Substitutes Interna ional eering Research Labora vry, | Committee", April 1988, EPA/600/9-88/009, pp. i- |
| / | ~ | Smart, Bruce E., Fluorinated Organic Molecules, 1986, Molecules | ular Structure and Energetics, | , Vol. 3, pp. 141, 152 |
| KP | AY | Torninaga, Takeshl, "Global and Technical Countermeasures pp. 134-137, 156-163, 170-174 (English translation) | Against Flon", 1989, Th i Nild | kan Kogyo Shinbun, Ltd., |
| examinea /Kar | l Pı | DATE CONSIDERED 09/29/2006 | | |
| | | reference considered, whether or not citation is in conformence with MP copy of this form with next communication to applicant, | EP 609, Oraw line through c tation | If not in conformance and not |

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| | | FILING DATE October 31, 2003 | GROUP 1621 | | | | | | | |
| OTHER REFER | NCES (including Author, Title, Dale, Pertinent Pages, Etc.) | | | | | | | | | |
| KP ~ | index to Decisions and Annexes of the Parties to the Montre | al Protocol, Helsinki Meering. | p. 79, 128, 241, 1989. | | | | | | | |
| /49 | Marshal Sillig. Chemical Process Monograph No. 22, Fluoring | nated Hydrocarbons and I olyn | ners, 1966, page 13. | | | | | | | |
| 140 | McLinden. Ph.D, Didion. Ph.D, "Quest for Alternatives", Ash | rac Journal, December 1687, | pgs. 69-78. | | | | | | | |
| AD | National Fire Protection Association, NFPA 2001 "Clean Ag | ent Fire Extinguishing Sys ems | s" pps. 2001-1 and 2001-14 | | | | | | | |
| AE | Creitz, Journal of Research of the National Bureau of Stand | ard, Vol. 65A, No. 4, pp. 339-3 | 98 (1961). | | | | | | | |
| AF. | Simons, Fire Exiloguishing Agents, in H.G. Bryce, Industrial Aspects of Fluorine Chemistry, at pages 354-358, Vo of Hudlicky, Milos, Chemistry of Organic Fluorine Compounds (1982). | | | | | | | | | |
| AG | R. Hirst and K. Booth, Measurement of Flame-Extinguishing Concentrations, Fire Tec mology. Vol. 13(4): 296-315 (1977). | | | | | | | | | |
| AL. | Final Report on Extinguishing Agents for the Period Septem Conducted by Purdue Research Foundation and the Depart 009-engr 507. Army Engineers Research and Development | ment of Chemistry, Purdu : Ur | Covering Research siversity. Contract W-44- | | | | | | | |
| М | Research at the Corps of Engineers Laboratories, Halogens (October, 1951). | Lied Extinguishing Agents. NF | PA Quarterly pgs. 118-131, | | | | | | | |
| ~ | Decision of the Technical Board of Appeal Regarding Europ | ean Patent No. 0439579, Nov | ember 14, 2001. | | | | | | | |
| AK | Banks, Findings of the Chlorofluorocarbon Chemical Substi Report A-1-A-5, 05/1987. | tutes International Commit:00, | Appendix A: summary | | | | | | | |
| ^~ | Hogue. Cheryl, "Substitutes for Halons: No One Chemical S 493-495. | uitable", Intl. Environment Rep | ooner, Nov. 21, 1990, pp. | | | | | | | |
| A44 | Federal Register Vol. 58, No. 90, May 12, 1993, pp. 28136- | 28149 and 28176-28185. | | | | | | | | |
| 444 | "FM-2009, The New Solution for Fire Protection", June, 199 | 3, 11 pages. | | | | | | | | |
| 40 | Moore, P.E., "Fluorocarbon Halon Alternatives", Fire Safety | Engineering, 1997, 3 pages. | | | | | | | | |
| 4.5 | Hampson, Roger D., "The Success of FM-2006", Fire Salet | y Engineering, Vol. 2, No. 1, 1 | 995, pgs. 21-23. | | | | | | | |
| AG | "Kiddie FM-200® Fire Suppression Systems", May 1994, 2 | aegsc | | | | | | | | |
| 14 | "Real-Scale Haion Replacement Testing," CFC/Haion News | , March 1996. one page | | | | | | | | |
| KP ~ | FM-200® Waterless Fire Protection for Marine Applications, | 2003, 8 pages | | | | | | | | |
| EXAMINER /Karl 1 | DATE CONSIDERED 09/29/2006 | | - | | | | | | | |
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| | | | FILING DATE October 31, 2003 | GROUP 1621 |
| OTHER RI | FERE | NCES, CON'T. (including Author, Title, Date, Perlinent Pages, E | Etc.) | |
| KP | • | Burkland, Robert E., "When It Comes to Fire Protection - Spa one page | eed Gounts," Automotive Ind | ustry Agenda. March 2002. |
| | AB | Mike Benneπ, "Haton Replacement for Aviation Systems," Int September 29 through October 1, 1992, Washington, D.C., p | lemational CFC and Hair n A lages 667-672 | Alternatives Conference, |
| | AG | Thornton, At, *FM-200. A Unique Fire Fighting Agent,* 1997 Protection, December 10, 1997, 10 pages | Talpei International Conferer | nce on Ozone Layer |
| | AD. | The Appeal Decision in invalidation action for Patent No. 258 | 10075, 10 pages (translation) |) |
| | AE | International Fire Protection, "Great Lakee Chemical Corpora Nov/Dec 2000, 4 pages | tion - Company Profile," An | MDM Publication, Issue 4, |
| | Α, | http://www.e1.greatlakes.com/wlp/product/jsp/articles.jsp "Ail "Healthcare Facilities Protected by FM-2009 Waterless Fire I protected by FM-2009," and "Casino Properties Protected by | Protection Systems," "Mulieu | ons Protected by FM-2009," ims and Cultural Landmarks |
| | ** | Nimitz , et al., "Halocarbons as Halon-Replacements: Tochn Research Institute, University of New Mexico, Final Report, N | ology Review and Initiation," March 1991, 141 pages | New Mexico Engineering |
| | AH. | 'A Review of the Toxio and Asphydating Hazards of Clean A Halon Alternatives Group, February 1995, 22 pages | gent Replacements for Halo | n 1301," A Report by the |
| | ~ | Hart-Winchester, "A Burning Issue: What Products Will Rep March/April 1995, pages 13-18 | lace Halon 1301?" The Com | puter Operations Manager. |
| | ~ | Maranghides, et al., "Discharge System Modifications: Real Technical Worlding Conference, Albuquerque, New Mexico, I | Soale Halon 1301 Replaisn May 7-9, 1996, 12 pages | nont Testing," Halon Options |
| | AK | Eilis, "Pleasure Boat Fire Extinguisher Choices," Gurgee 26, | November 1996 | |
| | AL. | "Scientific Assessment of Stratospheric Ozone: 1989", spon | sored by the United Natic ns | Environmental Program |
| | AM | Nat'l Fire Protection Assoc., Boston. "Fire Protection Handbo | ok" 14 ^h ed., 2001, Sec.1 VC | Chap.4, pp.13-20 to 13-26 |
| V | ~ | Fukaya+ Journal of Flourine Chemistry, "Fire Extinguishing A | Ability of Perfluoroalkylam ne | s and 2000, pp. 143-146 |
| KP | AD | Burns+, "Flourine Compounds in Anaesthesia" 1982, Vol. 37 | . pp. 278-284 | |
| | 2 | | | |
| | AD | | | |
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| | AS | | | |
| EXAMINER | l Pu | ttl tz/ 09/29/2006 | | |
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| | | | | U.S. PATENT DOCUMENTS | | | | | |
| *linniner hind | | Document Number | Date | Nama | | Chus | Subclas | Filing L'Appe | Date roprises |
| KP | AA | 4,876,405 | 0/24/89 | Gervasutti | | 570 | 156 | | |
| KP | AB | 5,523,501 | 06/04/96 | Kellneret al. | | 570 | 176 | | |
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| | | Documens Number . | Onte | Country | | Cpm | Subctass | Translation | |
| KP | АМ | 698,386 | 10/14/53 | Great Britain | | | | You X | No |
| KP | W | PCT/US2004/023917 | 07/22/04 | Int'l Search Report | | | | | |
| KP | м | PCT/US2004/023917 | 07/22/04 | Written Opinion | | | ļ | | |
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| U.S. PATENT DOCUMENTS | | | | | | | | | GROU 1621 | GROUP 162) | | |
| | | | | | U.S. PATENT | DOCUMENTS | | | | | | |
| *Describer Initial | | Document | | Date | | Nune | | Class | Subdise | Filing U Apper | Date opriate | |
| KP | * | 2,494,064 | | 1/10/1950 | Signons at al. | | | | | | | |
| | ۸D | | | - | | | | <u></u> | | | | |
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If Appropriate Subclass Name Date Document *Examiner Number Initial Simons, et ai. 01/50 2,494,064 ΚP H.W. Daudt, et al. 06/35 2.005,706 ΑB H.W. Daudt, et al. 06/35 AC 2,005,707 A.F. Benning, et al. 11/51 2,576,823 AD R.M. Mantell, et al. 12/54 2.697,124 AE L.B. Smith, et al. 08/59 2,900,423 ΑF L.B. Smith, et al. 06/60 2,942,036 AG F.W. Swamer, et al. 06/66 3,258,500 AΗ L.E. Hall,e t al. 04/69 3,436,430 Αi L.E. Gardner 01/72 3,636,173 1. Stolkin, et al. 04/74 3,803,241 ΑK von Halasz 06/79 4,158,023 AL Webster, et al. 08/91 5,043,491 Webster, et al. 10/91 5,057,634 AN Webster, et al. 11/91 5,068,472 ΑO Keltner, ct al. 11/91 5,068,473 ΑP KP FOREIGN PATENT DOCUMENTS Translation Subclass Class Date Document Yes CA 05/91 1,162,511 KP ΑQ 10/92 2,081,813 AR EP 01/90 0 349 115 A1 AS 06/91 0 434 407 A1 AΤ EP 08/93 KP 0 442 075 BI ΑU OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.) Herbert O. House, "Catalytic Hydrogenation and Dehydrogenation," Modern Synthetic Reactions, 2⁻¹ cd., The Benjamin/Commings Publishings ۸V KP Company (Menio Park, CA), p. 1/2. /Karl Puttlitz/ DATE CONSIDERED /Karl Puttlitz/ **EXAMINER** *EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered, include copy of this form with next communication to applicant.

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If Appropriate Subclass Class Name Date Document *Examiner Number Initial Keliner, et al. 09/92 5,146,018 ΚP Gassen, et al. 12/92 5,171.901 ΑB Bruhnke, et al. 01/93 AC 5.177,273 Webster, et al. 06/93 5,220,083 ÁD Hopp, et al. 12/93 5,268.343 AE Manogue, et al. 11/94 5,364,992 ΑF Manogue, ci al. 07/95 5.430.204 AG Manogue, et al. 08/95 5,446,219 ΑH Manague 04/97 A١ 5,621.151 Jansen, et al. 04/97 5,621,152 ΑJ Miller, et al. 03/98 5.723.699 ΑK Rao, et al. 05/99 5,902,911 AL 07/99 5.919.994 AM Manogue, et al. 01/00 6,018,083 AN Pham, et al. 12/00 6.156.944 ΑO Miller, et al. 04/01 AР 6,211,135 KP FOREIGN PATENT DOCUMENTS Translation Subclass Class Country Date Document Number Yes E(05/93 ΚP 0 539 989 Al AQ wo 05/91 91/05752 AR wo 06/96 96/17813 AS wo 11/98 98/50327 ΑT wo 06/99 KP 99/26907 OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.) ΑU Dmitril D. Moldavskii, "Technology for the Preparation of Perfluoro-Organic Compounds," Journal of Fluorine Chemistry, Elsevier Science A٧ S.A. (Netherlands), Vol. 94 (No. 2), p. 157-167, (February 5, 1999). 09/29/2006 DATE CONSIDERED /Karl Puttlitz/ EXAMINER *EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered, include copy of this form with next communication to applicant.

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| | ئسل | u | | | OTHER REFE | RENCES (including Author, | Title | Date, Pertinent Pages, I | Etc.) | | | Their | |
| | | T | $\neg \tau$ | J. Kvicala, et | | Chloroflug | ropro | panes by Halogen Excha | nge in the Li | quid and Vapor | e 175 (Februa | ry 5, 1989). | |
| KΡ | AI | ` | | | | Preparation of Perhalogenated Champions Properties of Pluorine Chemistry, Elsevier Scquola (Netherlands). p. 155-175, (February 5, 1989). The superior of Perhalogenated Champion of Pluoring Pluoring Champion of Pluorine Chemistry Reviews, 1" ed., Vol. 1 The superior of Perhalogenated Champion of Pluoring Champion of Pluo | | | | | | | |
| | +- | L. | | F.J. Mettille. | et al., "Methods j | for the Introductions of Hyd | ragen | Into Fluorinated Compo | ounds," Fluor | ine Chemisty . | | | |
| 1 | | ţ | | (No. 2), | p. 315-358, (Febr | uary 5, 1967). | | - : | Impact in the | e Special Huzar | ds Fire Suppre | ssion | |
| 1 | - | M. | | Dr. Mark D. | Cisneros, et al., | "An integrated Approach to | Achi | eve Low Environmental | | | | | |
| 1 | | | | Industry," (| ireat Lakes Chem | nical Corporation (West La | ayett | c, Indiana), in 2 | Aliminum C | hlorofluoride," | Iournal of Flui | wine | |
| - | - | AN | | Viacheslav . | A. Petrov, et al., | "Isomerization of Halopolyss | uoroa | ikanes by the Action of | Alumana | | | | |
| | | | | Chemis | ry, Elscvier Scien | ice S.A. (Netherlands), p. 1 | 25-13 | 0. (February 3, 1990) | loropropane," | Petroleum & F | tydrocurbons, \ | /ol. 3 (No. | |
| | | ΑO | | | | rination of Propane and Pro | pylene | e and Pyronysis of 1 State | | | | | |
| | / | | | 2), p. | 69-72. (July 5, 19 | 68). Iuorinated Derivatives of Pro | | and Propylene," p. 496- | 497, (March | 5, 1946). | | | |
| 1 | K. | ΑP | | Albert L. | Henne, et al., "F | luorinated Derivatives of 170 | | | | | | | |
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| | | | T | #En avelopedia of C | hemical Technology," Catalysis, | 3 rd ed., John Wilcy & | Sones (New Y | ork), p. 16-18. | | | |
| KP | AK | | Kirk-Othmer. | -Encyclopicata by | | | | | | | |
| | | | | | Organic Fluorine Compounds, A | aboratory Manual wi | ith Comprehensiv | e Literature Co | veruge. 2nd cd | Ellis | |
| | AL | | | | | | | | | | |
| KP | | | Horwood | (New York), p. I | 70-179, (February 8, 1992). | | | | | | |
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